

614.05
G 67R

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Hell ed

Bill

HEALTH CONDITIONS IN THE CANAL ZONE

BY

COL. W. C. GORGAS, U. S. A.

Chief Sanitary Officer
CANAL ZONE

Twenty-four years ago the great French company financed by M. de Lesseps began work on the Panama Canal, under circumstances similar to those that have confronted us. The only difference is that they took no sanitary precautions whatever in connection with their work; and if we had followed their example, conditions on the isthmus would probably be now what those of the French were, at the same length of time after they began their work.

The United States has had control of the canal for a little over one year. If, therefore, we consider what the sanitary conditions among the French workers were at the end of their first year, the comparison with our present state will be a fair one. I have no intention of criticising the French. If we had come down here twenty-four years ago, situated as they were, I am not sure that we could have done very much better. In the first place, no one knew at that time how malaria or yellow fever was conveyed from one person to another; and in the second place, the French were building the canal just as we build a railroad in the United States. They were a private corporation, and could not control the sanitary arrangements along their route—a matter which was entirely in the hands of the Colombian government.

Now let us see what the conditions of the French were as to health at the end of their first year. I think probably the best measure that I can take of this condition is their death-rate. The report of the old French company for the year 1881 shows that they had, on an average, 928 employees per day at work; of this number 630 per 1,000 were taken sick, and 67 per 1,000 died; but the

French records are known to be very inaccurate; the actual state of affairs was much worse than their reports show.

The canal was divided into sections, and the construction work on these sections was let out by contract. The contractors were charged \$1 a day for every one of their employees who went to the hospital. The tendency, was, therefore, to discharge a man as soon as he became sick, so that he would not be a charge against the contractor, and no one not actually in the employment of the company itself, or of the contractors, was received into the hospitals. The probability would be, therefore, that deaths would occur not among those actually employed, but at the villages along the line of the canal, among the men who had been discharged by the contractors. And this is the opinion in Panama among the people who were here at the time of the French construction, namely, that many deaths occurred along the line, of which the French authorities have no record. Now when the French sanitary officer reports that 67 men per 1,000 of the French employees in the year 1881 died, he means that, on the average, they had at work every day 928 men along the whole line of the canal, and that 67 per 1,000 of this number died in hospital in the course of the year. He only knows, and takes account of the men who died in their hospital. He knows nothing of any man who was discharged by the contractor at Culebra, say, on account of being sick, and died a week or ten days afterward in the village of Culebra.

Personally, I think it would not be unfair to say that instead of losing 67 per 1,000, they lost considerably more than 100 per 1,000, but this is mere guess and supposition. I only know that they lost more than 67 per 1,000; how many more it is impossible to say.

Now let us turn our health conditions at the end of a year, measured by the same standard. I will take the month of March, as that is the last month of which I have a report. I cannot compare the whole year, as the figures for such comparison have not yet been collected; but I am quite certain that March was an average month, and that the comparison is fair. We had on the rolls at the end of the month 9,000 men, and of these 401 per 1,000 a year were taken sick, and 14.66 per 1,000 a year died. I mean by this that the rate of sickness and death which we had during March, if extended

over the whole year, and applied to an average of 9,000 men, would have given us this rate of sickness and death.

Our report includes everything. When we say 14.66 of our laborers per 1,000 have died, it means that every man in the employment of the Commission at the isthmus is counted, and every one of these men who dies, if he was an employee of the Commission at the time he was taken sick, is also considered. The Commission cares for all its employees free of charge, so that all employees who are sick come to the hospitals; and, besides, the Sanitary Department has control of the towns of Colon and Panama, and the intervening country along the canal; and it has accurate records of all the deaths occurring in these regions. Therefore, when we say that 14 per 1,000 died, the statement is accurate and comprehensive.

I think it is fair then to make this summary: that, taking March as an average, both in numbers of men and in mortality, we have lost by death during the first year of our work 14.66 per 1,000 of our men (which for 9,000 men, would mean 132 deaths); and we have sickness to the extent of 401 per 1,000, which, for the whole force, would give 3,605 sick. Taking the French mortality for their first year, as showing what would have occurred with no sanitary precautions, we would have had, instead of 132 deaths, 620 deaths; instead of 3,605 sick, 5,850 sick. Now this, it seems to me, clearly means that our sanitary work for this first year has saved 488 lives and 2,238 cases of sickness.

Now, as to the measures that we claim to have been instrumental in this saving of human life, on the isthmus we find, from reading of the experiences of our predecessors, that the two principal diseases to be feared are malaria and yellow fever; our measures, therefore, have been directed against these diseases. The authorities of the Panama Republic placed the sanitation of the towns of Colon and Panama in our charge. We have established health departments in these towns, cleaned the streets, collected the garbage, ditched and oiled all the districts possible, for the destruction of mosquitoes, covered all fresh-water receptacles in the city of Panama, and fumigated the whole town from one end to the other for the destruction of infected mosquitoes.

At this writing, April 18, we have not a single case of yellow fever in the city of Panama, the last case having

occurred March 23; and while it is premature to make any statement yet with regard to the extermination of yellow fever, I personally believe that we have seen the last case of yellow fever in Panama.

We have established health departments in all the towns extending along the fifty miles of canal route between Colon and Panama, ditched and drained all low ground in the neighborhood of these villages, cut away all the undergrowth in and about the villages and in the neighborhood of all dwellings and buildings, cleaned up the villages, and inaugurated systems of garbage disposal.

We have also established a very good quarantine system, by the aid of which I feel confident that all foreign infection will be prevented from entering. We have also established an immigration bureau, with the idea of examining all arriving laborers, seeing that they are vaccinated, and deporting such as are likely to be a charge upon the Commission.

We have a system of hospitals for the care of the employees of the Commission, and for any cases of disease that may be infectious, even though it may be among the population not employed by the Commission. In these hospitals we are at present treating about 300 patients.

We have established a laboratory for the investigation of diseases in connection with our hospital work. In doing all this sanitary work we have on our rolls at present considerably over a thousand men.

The results accomplished so far have been that our laboring force has been kept in about as good a state of health as a similar number of men in any healthy part of the United States would have been. This, I think, judging by the light of past experiences, is a very great accomplishment and fully justifies the expenditure so far made on sanitation at Panama. As I have already stated, our death rate among 9,000 laborers along the canal for the month of March was at the rate of 14.66 per 1,000 per year—that is, if the rate of March was kept up for a year, we would lose by death fourteen out of every 1,000. New York City for the year 1900 had a death-rate of 20 per 1,000, Philadelphia 21, Washington 22. This means that in New York City, in the year 1900, out of every 1,000 people twenty died; in Philadelphia, twenty-one died, and in Washington, twenty-

two died; but among the laborers on the isthmus only 14 per 1,000 died in our first year of work, extending from May, 1904, to May, 1905. If we select at random a thousand people in Philadelphia and a thousand of our laborers on the isthmus, the thousand people in Philadelphia would lose by death six more in the course of a year than the thousand laborers on the canal; a thousand people in Washington eight more than a thousand laborers on the canal. I do not pretend that this is a just comparison; Philadelphia and Washington have a large population of children, while the laborers are all adults, mostly in the prime of life, but it conveys some idea of what has been accomplished in the way of improving health conditions.

We expect to continue our work along the lines which I have described. Within the next year, for instance, we expect to provide Panama with a good water-supply, a good sewerage system, and good pavements; in other words, the work of the Sanitary Department will be perfected in every direction. In Colon we expect to have the whole island filled in with material dredged from the canal, so that instead of being a swamp it will be 12 or 15 feet above the water level. We expect to have the streets paved, a good water-supply brought in from the country, and a sewerage system installed. All these projects are now under way. Along the line we expect to continue our mosquito work, continue the organization of the local health departments, place water and sewerage systems in several of the larger towns, and have systems of disposal of night-soil established in all the others.

We have been authorized by the Commission to increase the hospital accommodations to a thousand beds. To do this we need a considerable amount of construction, which we expect to have finished within the coming year. We expect to establish small receiving hospitals and dispensaries at all the villages along the line, both for treating the sick, and for keeping a close sanitary supervision of diseases occurring in the strip. We expect to improve our quarantine department in the way of buildings for the purpose of housing people under observation and looking after laborers and immigrants until they can be properly distributed, and conveniences generally for carrying on this work.

Now a word about yellow fever. It is too early to make any positive statement to the effect that we have elimi-


nated the disease, but I believe, nevertheless, that we have, for this reason: The town of Panama was pretty generally infected; yellow fever was occurring in every part. The number of non-immunes here, the only people liable to yellow fever, has been steadily increasing; yet on adopting the measures we used in Havana, Cuba, the same results have apparently occurred.

In the city of Panama during the month of January we had 9 cases; in February, 13; in March, 7; and none, so far, in April; the last case occurred March 23. The measures adopted, which were the same as those used in Havana, resulted from the discovery that the disease was transmitted by the female *stegomyia* mosquito.

- Every house in Panama has been carefully closed and fumigated so as to kill every mosquito inhabiting it, the idea being to kill all the infected mosquitoes. At the same time, all cases of yellow fever as they occurred were carefully screened so that mosquitoes could not get at them and thus reinfect the town.

It is not a very difficult thing to keep yellow fever out, and I feel entirely confident that our present quarantine service will succeed in doing so. In Havana they have been free of it since 1901.

About malaria I cannot speak so positively; but our experience, so far as to the effect mosquito extermination has on decreasing the disease here at Panama, is very much the same as it was at Havana, and I feel greatly encouraged at the outlook.



Digitized by the Internet Archive
in 2017 with funding from
University of Illinois Urbana-Champaign Alternates

